



# Thomas Edison National Historical Park

## *Accessibility Assessment*



### **FINAL REPORT**

**Findings and Recommendations**

**AUGUST 2021**





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## **Thomas Edison National Historical Park**

### **Accessibility Assessment Summary of Findings and Recommendations**

*Assessment Dates: August and October 2020*

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## Assessment Scope and FMSS Locations

The National Center on Accessibility entered into Task Agreement P19AC00714 under Cooperative Agreement P15AC00795 with the National Park Service to conduct an accessibility assessment of the following visitor use areas at Thomas Edison National Historical Park: Glenmont Estate and the Laboratory Complex. Other park areas were not within the scope of this project, including such shared assets as public transit stops, sidewalks and street crossings, the park website, and employee use areas. Within this scope, the assessment team identified accessibility barriers in the following Facility Management Software System (FMSS) locations, which are referenced throughout this report:

### Laboratory Complex

- 59555 Parking
- 59551 Routes
- 59532 Building 1: Physics Lab and Visitor Center
- 59533 Building 2: Chemical Lab
- 59534 Building 3: Pattern Shop
- 59535 Building 4: Metallurgical Lab
- 59536 Building 5: Main Lab
- 59537 Building 6: Power House Boiler Room
- 59538 Blacksmith Shop
- 59540 Gold Room
- 59543 Black Maria

### Glenmont Estate

- 59523 Parking
- 59529 Routes
- 59513 Glenmont Mansion
- 59517 Potting Shed
- 59518 Greenhouse
- 59514 Barn
- 59516 Auto Garage

# Purpose, History, and Themes

Thomas Edison National Historical Park (TENHP) was established when enabling legislation adopted by Congress was signed into law on December 13, 1955. From the foundation document, the purpose statement reads:

Thomas Edison National Park explores the global impact of the life achievements of the prolific American inventor and his colleagues through the preservation and interpretation of his West Orange, New Jersey, research and development complex, the family's estate, Glenmont, and their vast collections, and services as a center for the study and exchange of ideas about innovation in history and culture.

The park's resources and values shape park planning and management and are essential to achieving the purpose of the park and maintaining its significance. The Laboratory Complex is a primary park resource. Thomas Edison perfected the idea of industrial research and development at the Laboratory Complex. About half of the 1,093 U.S. patents earned by Thomas Edison came from inventions developed at the West Orange Laboratory Complex, and the collegial and collaborative environment of the campus is credited with fostering such fruitful results. Most of the laboratory buildings and their contents remain as they did when Thomas Edison died in 1931.

Glenmont Estate is another park resource integral to the park's significance. Glenmont was the home of Thomas Edison, his wife Mina, and their children. It was purchased in 1886 and consists of a 29-room mansion, a greenhouse, a gardener's cottage and potting shed, a garage, a barn, a pump house, a hose house and 13.54 acres of historic grounds. Thomas and Mina were reinterred on site in 1963. The brick and wood mansion, built in 1880 by architect Henry Hudson Holly, is an outstanding example of the Queen Anne style. The estate is part of Llewellyn Park, a fashionable neighborhood that advertised "country homes for city people" and was one of the first planned communities in the United States.

Although there remained a strong connection between Thomas Edison's work and home life, the management of the estate was very much the domain of Mina Edison, who considered herself a home executive, overseeing both the Edison family and an extensive household staff.

The collections at the park number approximately 6.4 million items. The collections are divided into three broad categories: historical artifacts, archives, and natural history. The physical accessibility of the collections to researchers, partners, and the public has fostered a deep understanding of Edison's work and serves as inspiration for visitors of all ages.

The value of innovation is another key theme for TENHP. Thomas Edison's success and international fame rest on the process of invention and innovation practiced at the West Orange Laboratory Complex. The process was aided by the physical layout of the site and the factories and manufacturing buildings are an important resource in and of themselves. These buildings were used for mass production of Edison's inventions, and, although mostly destroyed by fire in 1914, the foundations exist as an archaeological resource. The proximity of manufacturing operations to the Laboratory Complex gave Edison control of production and signifies the close relationship between research and development, manufacturing, and marketing.

Based on the resources and values at Thomas Edison National Historical Park, interpretive themes clarify the meaning, concepts, and contexts of TENHP's resources. Themes go beyond mere description of events or processes in order to foster multiple opportunities to experience and consider the park and its resources. These themes help explain why a park story is relevant to people who may otherwise be unaware of connections they have to an event, time, or place associated with the park. The interpretive themes at TENHP, as identified in the foundation document, include:

- Thomas Edison as a prolific and influential inventor
- Edison's influences and relationships, both personal and professional

- Impact and relevancy of Edison’s inventions for research and the public

The resources, values and themes at any park are the foundation of the park’s programming. They drive the visitor experience and the meanings and significance visitors take from the park. Providing physical and programmatic access to these resources, values, and themes is paramount to achieving the National Park Service mission.

## The National Center on Accessibility Assessment Approach

The National Center on Accessibility (NCA) assessment process was designed to identify barriers to participation for people with disabilities, make recommendations for barrier removal and improved access, and assist facility personnel in long-term planning. The NCA utilized the federal standard for program access, Section 504 of the 1973 Rehabilitation Act, as a guiding principle for viewing the programs, activities, and services at TENHP in their entirety for consideration of barrier removal. The assessment team looks critically at programs for effective communication and equitable opportunities for participation for people who have disabilities related to vision, hearing, mobility, and cognitive processes. This approach focuses the assessment process and outcomes on the visitor experience beyond the realm of solely the physical environment. The NCA assessment team acknowledges the physical environment as a catalyst for program access and thus forms recommendations for barrier removal with program access at the forefront of the investigative and reporting processes.

At TENHP, the assessment team from the NCA conducted an accessibility assessment of the physical elements of the lab complex and Glenmont Estate. In addition, the NCA conducted a programmatic focus study specifically examining visitor programming at Glenmont. The Program Accessibility Report was published as a companion

document to this report and describes specific accessibility improvements that should be made to Glenmont Estate programs.

On-site primary data collection was shaped by the Covid-19 pandemic, which prevented non-essential travel and closed NPS facilities. Rather than the team’s planned site visit, two team members visited TENHP individually, weeks apart. During the first visit, NCA staff assessed outdoor site conditions around the buildings at the lab complex and Glenmont. At the second visit, staff evaluated the interior of the Glenmont Mansion. These facilities remained closed to the public throughout the data collection period. Subsequently, the assessment team was able to attend a live tour of Glenmont Mansion via Zoom in preparation for the program focus study. The team also reviewed key park documents to collect information needed to provide a broad range of recommendations for improving access for visitors with disabilities.

## Referenced Standards and Guidelines

The National Park Service (NPS) is legislatively mandated to provide accessible facilities and programs for their visitors with disabilities. Based on these mandates, NCA utilizes the following accessibility legislation, standards, and guidelines for their assessment:

### **2015 Architectural Barriers Act Accessibility Standards (General Services Administration, effective date May 8, 2006)**

These standards, issued under the Architectural Barriers Act (ABA) of 1968, contain scoping and technical requirements for accessibility that apply to sites and facilities designed, constructed, altered, or leased with certain federal funds. The most recent provisions for outdoor areas developed by the federal government, which address access to trails, picnic and camping areas, viewing areas, and beach access routes, are included in this edition of the ABA Accessibility Standards.

### **Rehabilitation Act of 1973, as amended in 1978, Section 504**

Section 504 of the Rehabilitation Act (1973) reads, “No otherwise qualified individual with a disability in the United States shall solely by reason of his disability, be excluded from the participation in, be denied benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance, or under any program or activity conducted by an Executive Agency.”

### **Rehabilitation Act of 1973, Section 508**

Section 508 requires access to information and communication technology provided by the federal government. The law applies to all federal agencies when they develop, procure, maintain, or use electronic and information technology. Federal agencies must ensure that this technology is accessible to employees and members of the public with disabilities to the extent it does not pose an “undue burden.” Section 508 standards were updated and published in 2017.

### **Architectural and Transportation Barriers Compliance Board Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way; Shared Use Paths (July 26, 2011; February 12, 2013)**

Sidewalks, street crossings, and other elements of the public right-of-way present unique challenges to accessibility for which specific guidance is essential. These guidelines ensure that sidewalks, pedestrian street crossings, pedestrian signals, and other facilities for pedestrian circulation and use constructed or altered in the public right-of-way by state and local governments are readily accessible to and usable by pedestrians with disabilities. The guidelines were supplemented in 2013 to include provisions for shared-use paths, multi-use paths designed for transportation and recreation that may or may not be within the public right-of-way.

### **NPS Director’s Order #42: Accessibility for Visitors with Disabilities in National Park Service Programs and Services (November 3, 2000)**

This NPS Director’s Order reiterates the NPS goal of ensuring that all people, including American citizens with disabilities (now estimated at more than 60 million people), have the highest level of accessibility that is reasonable to their programs, facilities, and services, in conformance with applicable regulations and standards. Five objectives are outlined, including incorporation of the highest level of accessibility as a long-range goal; implementation through daily operation, policies, organizational relationships, and strategies; provision of guidance and direction regarding the NPS interpretation of laws and policies; establishment of a framework for effective implementation; and ensuring the implementation of universal design principles within the national park system.

### **NPS Audio-Visual Accessibility Initiative for Visitors with Disabilities D24 (2420) (October 20, 2006)**

A series of official disability rights complaints and testimony received at a congressional oversight hearing on disability access revealed that the NPS has many audiovisual programs that are not captioned or audio-described, assembly areas that are not equipped with assistive listening systems, and, in some cases, captioning systems that are broken and have not been repaired. This initiative established the fundamental goal that the films and audio-visual programs presented in parks provide three basic services: open captions, audio-description, and assistive listening devices.

### **NPS Policy Memorandum 18-02: Use of Service Animals by Visitors with Disabilities—Interim Policy (October 18, 2018)**

This policy memorandum updates information about the use of service animals by visitors with disabilities in units of the National Park System. It provides guidance on what NPS employees must

do in order to comply with section 504 of the Rehabilitation Act of 1973 and align with Department of Justice regulations implementing titles II and III of the Americans with Disabilities Act of 1990.

### **Programmatic Accessibility Guidelines for National Park Service Interpretive Media (May 2017)**

These NPS guidelines combine laws, policies, and best practices for interpretive media. The guidelines acknowledge that no interpretive media product works alone. Media products are interdependent, and each has inherent strengths and weaknesses. Park visitors sample and benefit from an array of interpretive media. These guidelines describe design and presentation solutions that are acceptable in most interpretive media situations. It should be noted, however, that these guidelines are currently under revision.

### **Wayside Exhibits: A Guide to Developing Outdoor Interpretive Exhibits (October 2009)**

The Wayside Guide is an overview of NPS wayside exhibit standards and work process. Its purpose is to provide information and tools for preparation for, participation in, and management of wayside projects. The guide addresses accessibility issues related to Section 504 requirements, design, installation, and accessible wayside features including audio components, braille, and tactile elements.

### **Smithsonian Guidelines for Accessible Exhibition Design, 1996**

The Smithsonian Guidelines are some of the very first resources addressing exhibit design considerations for museum patrons with disabilities. The Smithsonian Guidelines are referenced as foundational for designing for various learning styles and functional abilities in the interpretive environment, especially in situations where accessibility standards do not fully transfer to unique exhibition designs.

## **Principles of Universal Design**

Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. The intent of universal design is to simplify life for everyone by making products, communications, and the built environment more usable by as many people as possible. Universal design benefits people of all ages and abilities.

The NCA recommends application of universal design principles to all components of projects that impact visitor use. Examples include recommendations for benches in the outdoor environment, using plain language in publications, installing power-assisted exterior doors, marking van accessible parking spaces uniformly 11 feet wide, and utilizing the advisories in the Architectural Barriers Act Accessibility Standards (ABAAS) when appropriate, due to accessibility issues that contribute to safety risks.

During the accessibility assessment, the NCA assessment team identified some barriers to accessibility that are best addressed utilizing the principles of universal design and best practices. It is the policy of the National Park Service (NPS Director's Order 42) that the principles of universal design will be applied wherever it is practical to do so. Barriers and solutions that fall into these categories are included in the recommendations and cited as such in the action tables.



## Historic Structures and Landscapes

The National Register of Historic Places automatically includes all historic areas administered by the National Park Service. Additionally, the Thomas Edison estate is part of the Llewellyn Park Historic District, also listed on the National Register of Historic Places. Llewellyn Park is considered the country's first planned residential community and is significant for its landscape architecture, community planning and development, and architecture. The Laboratory Complex today occupies the front section of the block between Alden Street and Lakeside Avenue on Main Street, which is a district in the National Register of Historic Places.

The fact that a landscape, district, or building is listed on the National Register does not exclude it from complying with accessibility standards. Many federal facilities around the country have been able to make changes to historic structures and landscapes to bring them into compliance with accessibility standards. Through the NCA's assessment of TENHP, deficiencies were

noted regardless of whether they were part of a contributing factor to the park's National Register listing. It is the park's responsibility to remedy those deficiencies to the greatest extent possible. According to the ABA Accessibility Standards, the Advisory Council on Historic Preservation has established procedures for federal agencies to meet this responsibility, including consultation with the State Historic Preservation Officer and involvement by the advisory council in certain cases. TENHP should work with its own or National Park Service regional historic preservation specialists to determine what possible changes can be made. If it is determined that a feature, element, or area cannot be made accessible, there is still an obligation to provide program access to the feature, element, or area. In many cases, this is achieved through a combination of approaches including increasing accessibility to the feature, element, or area as much as is feasible; providing the experience in an alternative accessible location; and providing accessible interpretive program alternatives.

At TENHP there are several unique and historic elements, such as the grounds and plantings of the Glenmont Estate and the key architectural features

of the mansion itself, where the implementation of the ideal solution of creating an accessible route may be limited due to the historic nature of the buildings and significant site constraints. In these cases, proposed solutions may focus on the creation of new interpretive materials (e.g., displays, video experiences) or creating the experience in a different, more accessible location as ways of creating programmatic access where physical access is limited. However, as technology, construction methods, and management strategies evolve, the park should always be reevaluating whether the ultimate goal of providing experiences in as integrated a setting as possible can be attained in these locations.

This study takes a comprehensive view of all of the experiences and programs offered at the park as a way to evaluate accessibility-related opportunities, and to correct deficiencies at the site. Acknowledging that parks have many additional considerations when making any modifications to their infrastructure and programs, this study strives to offer attainable solutions and alternatives while also providing long-term goals. The action tables, list of deficiencies by criticality, and list of easy improvements are the best tools with which the park can plan projects. This narrative section of the report tells the story of access at the park and how the corrective actions taken together will create a more accessible experience for all. Specific recommendations on program accessibility can be found in the companion document, Thomas Edison National Historical Park Program Access Report.

The AccessAbility Office at the National Endowment for the Arts (NEA) provides a variety of resources for museum operators and historic properties including the Design for Accessibility Guide and the Disability Symbols ([www.arts.gov](http://www.arts.gov)).

## Key Findings and Recommendations

This section, arranged by physical site location, provides descriptions of identified barriers and the assessment team's recommendations for barrier removal. The corresponding action tables for these locations go into further detail, outlining the criticality, and timeframe.

### Criticality

Each identified deficiency is rated proportionate with how much it inhibits or prohibits access for someone with a physical, sensory, or cognitive disability. A compiled list of deficiencies grouped by criticality is located in Appendix A. The National Park Service Facility Management Software System establishes three levels of criticality: critical, serious, and minor. A similar rating system is presented in consideration of accessibility deficiencies:

**Critical:** A critical priority is given to those physical or programmatic deficiencies that impact a significantly high number of visitors or prohibit people with physical, sensory, or cognitive disabilities from utilizing a facility or accessing a program.

**Serious:** A serious priority is given to those physical or programmatic deficiencies that substantially inhibit an individual with a physical, sensory, or cognitive disability from utilizing a facility or accessing a program.

**Minor:** A minor priority is given to those deficiencies that only slightly inhibit an individual with a physical, sensory, or cognitive disability from utilizing a facility or accessing a program.

### Timeframe

An implementation timeframe is provided for each solution. These timeframes are intended to help the park transition from an evaluation of deficiencies to an action plan for removing barriers (for more information on action planning, see Section VIII of this report). The timeframes were reviewed by the park during the data review process. As funding, staffing, or other factors will likely change these

timeframes, the park should evaluate and update these on a regular basis.

Definitions for the timeframes:

**Immediate:** less than 1 year

**Short-term:** 1-2 years

**Mid-term:** 3-7 years

**Long-term:** more than 7 years

## Deficiency Solutions Versus Best Practice Recommendations

Many of the deficiencies noted in the action tables are deficiencies because they do not meet an accessibility standard or program access. These deficiencies need to be addressed because they do not meet a legal requirement. Other deficiencies are identified as best practices. These indicate

deficiencies where the proposed solution is recommended because it achieves good universal design and best contributes to providing complete program access, but the barrier is not specifically addressed by or applicable to an accessibility standard. All of these barriers are presented in this report for the park's consideration.

The accessibility standards and laws often specify what an element, program, or feature of a park should be doing in terms of accessibility, but not how to achieve that function. An NCA accessibility assessment has two parts: (1) identify the barriers that must be corrected, then (2) provide, in consultation with the park, a corrective action or actions that work best for the park. A barrier, once identified, can be addressed in any way that will remove it, which provides flexibility for the park in carrying out these actions.



# Park-wide Considerations

## Accessibility Guide

TENHP currently does not have an accessibility guide; however, gathering the information on accommodations and the accessibility of programs and facilities at the park is an important step in providing accessible experiences. Several parks have created or are in the process of creating accessibility guides for their visitors. These stand-alone documents provide useful resources for both trip planning and on-site navigation and information specifically relevant to visitors with disabilities. They acknowledge a park's present conditions while also demonstrating its commitment to full inclusion. Several park service sites such as Yellowstone, Yosemite, San Francisco Maritime, and Sequoia and Kings Canyon Nation Park have already created guides. While the need for a guide is typically greater at large parks due to the amount of information needed, they should still be considered at smaller parks. As accessibility improvements are implemented and more accessible features and programs are available for people with disabilities at TENHP, a guide could be easily updated for use by individuals with disabilities who are preparing to visit the park.

## Mobility Device Policy

Department of Justice regulations on other power-driven mobility devices (OPDMD) can be used to develop the TENHP policy. According to the DOJ, an OPDMD is defined as:

any mobility device powered by batteries, fuel, or other engines... that is used by individuals with mobility disabilities for the purpose of locomotion, including golf carts, electronic personal assistance mobility devices [...] such as the Segway® PT, or any mobility device designed to operate in areas without defined pedestrian routes, but that is not a wheelchair.

The ADA (2010) requires that entities covered by Title II (state and local governments) and Title III (public accommodations) "allow people with disabilities who use any OPDMD to enter the

premises unless a particular type of device cannot be accommodated because of legitimate safety requirements." While the NPS does not fall under the ADA, in the case of OPDMDs and Service Animals, the DOJ (ADA) has more clear guidance on these issues. It is recommended the park reference the DOJ's regulations on OPDMDs to develop its own policy. Some general information about the park's policy should be posted on the webpage along with a link to the regulations on the topic.

While the Department of Justice (DOJ) regulations for OPDMDs are directly applicable to entities covered by the ADA, federal entities also have a legal responsibility under Section 504 of the Rehabilitation Act of 1973 to permit the use of OPDMDs within their facilities. As a business practice, federal entities should reference the DOJ regulations in instances where they might provide more specific guidance. It is common for federal entities such as the National Park Service to produce internal memorandums reiterating their individual policies and guidance to field units. The lack of service-wide guidance does not exempt an entity within the National Park Service from developing and publicizing internal policies on OPDMDs. In fact, Section 504 requires the modification of these policies, practices, and procedures to make NPS programs and facilities accessible. This includes permitting the use of OPDMDs.

Good customer service, safety, and quality visitor experiences should factor into the creation of these policies. TENHP staff should consider the legal responsibilities of ensuring that the policies are administered correctly by staff and not abused by patrons. The policy and supporting information should be posted to inform community

## Service Animal Regulations

The park website indicates that, "Fully trained service animals are permitted throughout the park." The term, "fully trained" is a misnomer. It is recommended that the park use terminology from the NPS Policy Memorandum (2018) on service animals. In addition, the park could link to relevant regulations on the topic from its website.

Service animals are used by people with a variety of physical, sensory, and cognitive disabilities. The ADA defines “service animal” as:

“...dogs that are individually trained to do work or perform tasks for people with disabilities. Examples of such work or tasks include guiding people who are blind, alerting people who are deaf, pulling a wheelchair, alerting and protecting a person who is having a seizure, reminding a person with mental illness to take prescribed medications, calming a person with Post-Traumatic Stress Disorder (PTSD) during an anxiety attack, or performing other duties. Service animals are working animals, not pets. The work or task a dog has been trained to provide must be directly related to the person’s disability. Dogs whose sole function is to provide comfort or emotional support do not qualify as service animals under the ADA.”

The National Park Service policy guidance on service animals and additional information regarding this topic can be found in Policy Memorandum 18-02 and associated FAQ document.

## Accommodations

TENHP lists the available accommodations on the accessibility page of the park website. The accommodations include the availability of assisted listening devices and equipment as well as ASL interpretation upon request.

Ensure information about the accommodations and resources are available to the necessary staff members. Policies and procedures for the request, acquisition, and scheduling of interpreter services, real-time captioning, and live audio description should be developed, if not already, and provided to staff. Information on procedures for a visitor to request auxiliary aids and services should be posted on the accessibility page of the park website and should include the amount of advanced notice necessary to make such requests, as the park is already doing for sign language interpretation. Continue to include contact information for the appropriate park staff on the website as well.

It is important to remember when providing accommodations that the intent is to meet the individual visitor “where they are” with respect to their disability. For example, adapting the physical setting of a program or facility to accommodate wheelchair use is appropriate; however, it is never appropriate to expect that the visitor will transfer from their chair to one that more easily fits the facility (i.e., is narrower than the standard). In cases where an accommodation is not technically feasible, it is the park’s responsibility to provide adequate information to the visitor so that they can make their own determination about access.

## Audio Description

A tremendous amount of the visitor experience at a National Park Service unit is derived from visual information. Visitors who are blind or have low vision are unable to obtain the same information as other visitors through these predominately visual programs. Audio description is a narration that describes visual content in order to communicate essential details and elements of experiences such as live performances, presentations and events, exhibits, films and videos, and the surrounding environment. Audio description delivery can be provided through a variety of hardware options, software formats, and methods of distribution.

Recommendations for incorporating or adding audio description to various park programs is included in this report as well as in the Program Accessibility Report. Areas that are accessed only on ranger-led tours, such as Glenmont Mansion, should include audio description. Guides should receive skills training on providing live audio description to make the visual elements of tours more accessible to people with low or no vision. Areas that are accessed independently (without park staff), such as the exhibits at the main laboratory complex and throughout the park grounds, should have stand-alone audio description. A single system could provide audio description for the exhibits and the grounds, or they could be separate systems.

Some general considerations regarding audio description include working with a consultant to determine what equipment would be most

appropriate for the park's specific audio description needs. Upon selection of the equipment, ensure that units are hands-free or have a hands-free option (so that visitors can explore their surroundings tactilely), are able to be independently operated, and are hearing-aid compatible. Display signage at the visitor center information desk indicating that audio description is available and include a notice on the park website when the program is obtained.

When choosing equipment for assistive listening systems and audio description services, consider multi-channel receivers, as it may be possible to combine both services into one system and to also provide the tour in multiple languages. Develop a policy and user-friendly procedure for the loan and return of the equipment needed for both services. Additionally, develop a procedure for storage and distribution of equipment, regular testing, and maintenance of cleanliness and function. Once obtained and ready for use, inform visitors that both services are available through signage, publications, and the park website.

While cell phones are often used as audio tour delivery systems, not all visitors may have a cell phone, or they may prefer not to use it because it depletes the battery. Some people with disabilities rely on cell phones to maintain their independence and must avoid nonessential use. On the other hand, some people prefer the familiarity of their own phone. If the cell phone is used to provide audio description, an alternative delivery system should be made available, such as a wand, mp3 player, or a cell phone that can be checked out from the visitor center. Alternatively, offering a charging system for visitors' phones could be considered. The park has some of this equipment and should maintain a policy for lending this equipment, as well as procedures for distribution, maintenance, storage, and cleaning of the devices.

Interpretive programs utilizing information and communication technology shall meet the minimum requirements of Section 508 of the Rehabilitation Act, as well as the program access standard mandated by Section 504. Use of new technology, such as cell phones, smartphones, mp3 players, and portable GPS should include purposeful planning to accommodate the range of needs

of people with hearing loss, visual impairments, mobility impairments, or cognitive impairments. Consideration should also be given to the diversity of the park visitor population, including those traveling with children, older adults, and large groups.

## **Publications**

The park offers written transcripts of exhibit panels and the cell phone tour upon request. In addition, a picture guide of the park is available, both online and in printed form at the visitor center.

Park publications offer a wide range of information for visitors; therefore, it is critical that people with disabilities receive the same information—of the same quality—as other visitors. As per the Harpers Ferry Center's (HFC) guidelines, publications that are considered "readily available," such as the official park brochure, newspapers, and site bulletins must be provided in alternate formats including Unified English Braille (UEB), large print, audio, and electronic versions. At TENHP, a variety of informational and other materials are provided in large print, audio, and several languages.

The HFC Programmatic Accessibility Guidelines for National Park Service Interpretive Media were developed from the requirement for effective communication in Section 504 of the Rehabilitation Act; this means that publications available as "take away" pieces for people without disabilities (such as the unigrid, maps, and program booklets) should be available for people with disabilities as well (in formats such as braille or large print). Any audio and electronic files should be available on the park website. Other publications that are not primary or that change frequently should include a statement that the publication is available in alternate formats upon request and include a minimum length of time for advance notice. When individuals request a document, the park can work with them to determine the format that best suits their needs.

## **Waysides**

The park has a wayside plan, and the accessibility team has indicated that it should be reviewed

and revised to address accessibility. Accessible waysides should have basic elements, including large, easily readable text; high contrast graphics; audio and tactile components; and dimensions that comply with basic accessibility standards. Clear ground space should be provided at the front of each wayside exhibit, centered on the interpretive information, and positioned for a forward approach whenever feasible. Park management should develop and incorporate meaningful tactile elements, such as dimensional maps or scale models, for waysides. Where possible, maps, including floorplans, should be available in a tactile format. Tactile models that are integral to the interpretive story give visitors with visual impairments access to ideas and provides critical information such as shape and scale. They also increase the range of an exhibit's appeal, engage people with different learning styles, and add emphasis to the story. Tactile elements can be mounted to an interpretive panel, or they can be stand-alone or separate structures.

TENHP should work with local accessibility experts and people with disabilities to design their waysides for the best visitor experience. As new waysides are developed, ensure compliance with height and location

recommendations put forward by Harpers Ferry Center. Waysides should be installed on an accessible route, as close to the associated route as possible.

## Parking and Vehicle Circulation

Visitor parking at TENHP is located in three lots, two of which are near the Laboratory Complex and one at the Glenmont Estate. At least one lot offers no accessible parking and others have inadequate striping and other marking. Bus parking should be marked with clearly indicated loading zones. Other accessible parking must include van-accessible spaces and be marked with clear directional and identifying signs.

### SUMMARY OF FINDINGS AND RECOMMENDATIONS

#### Laboratory Complex Visitor Parking Location #: 59555

*Description and recommendations:* The parking area adjacent to the maintenance building has no accessible spaces. This lot should have a minimum of three, including one van-accessible space. The other nearby parking lot has accessible parking but



needs to be re-striped and marked, including loading zones. After parking at the Laboratory Complex, visitors must cross a busy street to get to the main entrance, visitor center and museum. According to park staff, the crosswalk along this route is dangerous and the route should be evaluated for safety. Accessible on-street parking (on Alden Street) could alleviate this concern for visitors with disabilities.

### **Glenmont Visitor Parking Location #: 59523**

The current Glenmont parking lot does not provide sufficient accessible parking and is in need of repair and maintenance. The proposed parking plan for this area will address these issues, and the NCA has communicated the required parameters to staff via email. The new parking lot must include van accessible spaces, and all spaces must be appropriately marked with the International Symbol for Accessibility. In addition, signs and other safety measures should be installed at the street crossing from the parking lot to the Glenmont Estate grounds.

### **Other Parking Considerations and Recommendations**

Parking information, including the location and number of accessible parking spaces, bus parking, and loading zones, should be made available on the

park website. Additionally, information about the distance between accessible parking and other park amenities is important and should be included online and on site. Also, because the park encompasses both urban and residential areas, visitors are required to cross busy streets to access park facilities. The park should communicate to visitors directly about the associated safety concerns using signs on site as well as on the website.

## **Pedestrian Circulation**

Accessible routes are required to connect visitors to the park's amenities and sites of interest. Surfacing, slope, and width impact a circulation path's accessibility, as do directional signage, shade, and seating. Once at a point of interest, such as a wayside, building entrance, or outdoor feature, the transition from the outdoor route into the site must also meet accessibility standards. Accessible pedestrian circulation is a critical component of overall visitor experience, in that it impacts the amount of effort needed simply to move through the park. There are several instances of doorways being too narrow to permit the required 32 inches of clearance for wheelchair access. Altering historically significant features can be challenging, and it is tempting to be creative in finding solutions to providing access. However, any solution must allow the visitor to independently access the site.



Compliance in an alteration is not required where it is technically infeasible. “Technically infeasible” is defined as “something that has little likelihood of being accomplished because existing structural conditions would require removing or altering a load-bearing member that is an essential part of the structural frame; or because other existing physical or site constraints prohibit modification or addition of elements, spaces, or features that are in full and strict compliance with the minimum requirements.” Where technical infeasibility is encountered, compliance is still required to the maximum extent technically feasible. The standards do not permit any exceptions to the clear width at doorways except where altering the doorway would be “technically infeasible.”

## **SUMMARY OF FINDINGS AND RECOMMENDATIONS**

### **Accessible Pedestrian Routes** **Location #: 59529**

The pedestrian routes at the Glenmont Estate, including that from the road to the barn, through the gardens, and connecting the various features are not accessible. Frequently they are too narrow or steep. Since the pedestrian routes cross the maintained landscape and connect historic buildings across the site, there are areas where the running slope of the circulation path to a building or other feature exceeds the maximum slope allowance for an accessible route. The ideal remedy would be to investigate feasibility and ultimately reroute or add additional pathways that do not exceed accessible route standards to all the primary buildings and features. Ideally, this would be designed to complement the park’s wayside plan, but the need for accessible routes must be addressed in the near term. Therefore, a combination of alternative approaches should be implemented to improve access in the interim and to create a programmatic alternative in the long-term.

### **Signs**

Routes throughout TENHP should be easy to navigate and labeled with signs, maps, or models to make orientation easy for all visitors, including those with disabilities. Indicating the shortest route or the path with the easiest terrain is important to facilitating

accessible use of the area. The visitor should be able to easily determine the best route to a desired location and know what to expect along the way. Signs and maps located at each main visitor use area as well as along the routes will make navigation quicker and easier. Even something as simple as posting the international accessibility symbol and a directional arrow can assist a person with a disability in finding a usable path to their destination.

### **Glenmont Estate Grounds**

On the Glenmont Estate grounds, some of the paved paths have slope that exceeds the standards—for example, the route to the potting shed is steep and should either be regraded or rerouted to meet ABA standards. In addition, drainage grates that do not meet ABA standards pose a hazard to pedestrians with low vision or mobility impairment. For example, grates with openings parallel to the direction of travel can entrap small caster wheels on wheelchairs. These accessibility barriers can either be removed or replaced.

### **Laboratory Complex Grounds**

The accessibility barriers at the laboratory complex are similar to those at Glenmont. Benches provided should have arm and back rests and clear space around them. Many building entrances, including the main entrance to the visitor center, are too narrow and must be widened to meet the minimum standard of 32 inches where technically feasible. Replacing historic doors with period appropriate replicas can maintain the significance while protecting both the original doors and accessibility. Any barrier removal actions in this location will be subject to Section 106 compliance and creative, historically compatible actions for compliance with federal accessibility legislation should be considered paramount.

The force required to open several doors at the laboratory complex will be a barrier for many people. Several interior doors, including the restroom doors and the door to the theater lift, exceed the maximum allowable force and should be corrected by adjusting each door’s hardware. While an exception to the ABA Standards permits exterior doors to exceed



five pounds of opening force, doors exceeding this amount will still create a barrier for some visitors. It is recommended to install power assist or automatic door openers at the main entrance if the opening force required cannot be reduced. If that solution is not technically feasible, consider creative alternatives such as installation of new doors just inside the historic exterior doors and leaving the historic doors open during visitor hours.

The drainage culvert found near several of the buildings in the Lab Complex prevents access to the Pattern and Blacksmith Shops and other spaces. Because of the historic fabric of the existing walk and culvert, installing an accessible elevated walkway could meet ABA standards and allow visitors to access these buildings while preserving the resource.

### **Interior Routes**

There is no accessible route into the Glenmont Mansion for individuals who cannot independently

traverse stairs and other changes in level. Other buildings can be entered with a wheelchair or by someone with limited mobility, but they need repair or replacement of exterior doorway transitions to eliminate excessive changes in level. In addition, routes inside the buildings at both Glenmont and the Laboratory Complex have routes that are too narrow to meet the ABA standard of 36 inches or have features that protrude into the route and pose a hazard for those with low vision. In many cases, moving physical barriers such as furniture will make portions of these routes accessible.

### **Interpretation and Education**

Harper's Ferry Center provides guidance on accessible interpretation and education, including exhibit and wayside design. Their publication, Programmatic Accessibility Guidelines for National Park Service Interpretive Media, outlines best practices for the NPS and guidelines with respect to printed media, exhibits and displays, as well as

waysides. When evaluating or creating interpretive programming for accessibility, both physical and program accessibility are taken into consideration. More detail on interpretive program accessibility the Glenmont Mansion can be found in the accompanying document, Glenmont Program Accessibility Report.

## **SUMMARY OF FINDINGS AND RECOMMENDATIONS**

### **Tactile Experiences and Audio Description**

Limited information on the size, design, and detail of the Mansion and the Laboratory Complex is available for visitors who learn best from tactile information, including those with visual impairments. A three-dimensional model of the Mansion should be created that is detailed enough to communicate key design features while being small enough to communicate the layout of the building as a whole. Frequently, multiple versions of this type of model are necessary to fully capture the context and setting of a building. For instance, a model with the house and grounds should be accompanied by another larger, more detailed model of the mansion itself. This model, combined with the creation of three-dimensional floorplans for each level of home, will help effectively communicate the layout and design of the Mansion for visitors with visual and cognitive impairments and learning disabilities.

Many important details and features of the Glenmont Estate and Laboratory Complex are also not available to visitors who primarily receive information in tactile and audio formats. Relevant tactile exhibit elements should be created to communicate key interpretive messages and elements currently available visually. The action table includes some recommendations of elements that would make good tactile experiences. In addition to tactile pieces, and since visitors only access the Mansion on guided tours, interpretive staff should be trained in providing live audio description to all visitors who benefit from it.

### **Laboratory Museum**

The exhibits in the Laboratory Complex buildings are primarily visual in nature. To create an equitable

opportunity for visitors who are blind or have low vision, all printed materials should be recreated with a minimum 24-point font. Recommended font sizes are directly dependent on the distance a viewer stands from the printed materials. Consulting the Harpers Ferry Guidelines for specific guidance is recommended. As important as providing program information in multiple ways for people of varying ability is ensuring that the visitors can find these opportunities. For example, the small laminated signs in building 5 include QR codes for accessing the information. Visitors who are blind have no way of knowing that the electronic version exists. When creating an audio tour of the laboratory complex, include reference to the QR codes and related online information for that audience. Another example in which properly located information can support interpretive and educational programming is the silent film in the Precision Shop. Visitors who are deaf or hard of hearing are unable to determine whether they are missing content when watching the film. A sign indicating that there is no sound would reassure visitors that they are experiencing the program fully. Finally, incorporating audio description and meaningful tactile objects into the exhibits and programming will allow visitors with disabilities to connect with the interpretive objects and stories.

### **Glenmont Mansion Location #: 59513**

The Glenmont Mansion was the home of Thomas and Mina Edison and their children. It is open to the public on guided tours, and occasionally as a self-guided, walk-through experience with rangers and volunteers stationed in different locations. The TENHP accessibility team reviewed the Glenmont Mansion programs specifically as a component of this larger accessibility assessment. Their findings and recommendations are published in the companion document, Glenmont Program Accessibility Report. Specifically, the current collections include many artifacts that are only accessible visually and inside the mansion, into which there is no accessible route. There are few tactile opportunities, either using replicas or artifacts similar to the key pieces in the collection.

Even inside the mansion, physical barriers to the interpretive experience include the narrow doorways, changes in level between rooms, and pervasive low lighting. Removing some interior doors and constructing removable ramps would increase access for visitors using wheelchairs or with mobility impairments. Lighting should be improved to enable visitors on guided tours to see the displayed collections and architectural details that comprise this experience.

### **Potting Shed**

#### **Location #: 59517**

The Potting Shed is used as the primary visitor contact station at the Glenmont Estate. The Potting Shed is located next to the visitor parking area and houses a small visitor center with an information desk, a gift shop, and a single-user restroom. The Potting Shed also includes a small gathering space used by volunteers and as an interpretative space. The Potting Shed is attached to the Greenhouse. Specific interpretive recommendations for within the Potting Shed include creating large-print versions of the old receipts and inventory documents on display. Also, many of the interior routes are too narrow to meet accessibility standards. Crating accessible routes within the Potting Shed is necessary, and other creative alternatives can be considered as well. For example, moving sensory programming that includes plant specimens outdoors or to other more spacious areas.

### **Auto Garage**

#### **Location #: 59516**

The auto garage was used to store and work on Edison's many automobiles. It contains a turntable and many antique cars. It is currently open to the public during guided tours or in the summer when the building is staffed with an intern. The park has indicated plans to create a public viewing area that is accessible at all times. Special attention should be given to the signs, which currently do not meet minimum standards for font size. The interpretive signs should be replaced, and, in the interim, printed versions with large print text should be provided on site. These signs should be close to the accessible route with clear space in front of them to allow for accessible viewing.

The auto garage exhibit is primarily visual in nature and should be audio described for visitors with visual impairments or who best process information verbally. Work with a consultant to audio describe the park film or consider creating a new park film with built in audio description. Work with a consultant to create an audio described tour of the carriage barn exhibits and acquire a system to deliver the audio description. Tactile models of some of the cars would enable someone who had never seen an early model vehicle to understand how they differ from modern cars. In addition, consider offering a "white glove" tour to allow visitors who are blind to comprehend the unique shape and structure of these cars.

### **The Gold Room**

#### **Location #: 59540**

The Gold Room in Building 11 is used for ranger programs, as a meeting space, and for special events. Interpretive wall panels in the room include relatively small print over images that can be difficult to read for people with vision impairment. Replacing these panels with accessibly designed versions would provide a more inclusive experience. Assistive listening and microphone systems should be available in any meeting spaces. Installing this equipment in the Gold Room will allow participants to hear any broadcasted audio in meetings and other programs.

### **Black Maria**

#### **Location #: 59543**

The Black Maria sits adjacent to Vault 12 and is particularly significant for its unique role in the development of moving pictures with sound. The black tar-paper building was the first film production studio. It was built on a rotating platform, to allow it to be positioned to maximize the sunlight through its retractable roof.

Live interpretive programming is conducted outside of the Black Maria and visitors typically remain on the viewing platform atop Vault 12. The existing waysides outside the studio need to be updated, as they are deteriorated and difficult to read. In addition, at least one blocks the accessible route and must be relocated. Critically, the interpretive

signs and live verbal interpretation at this location must integrate audio description and tactile models to share the unique design and significant use of the building with visitors. Specifically, a working, manipulable model would enhance the interpretive staff's ability to describe the functioning of this unique structure for all audience.

## Other Location-Specific Findings and Recommendations

### SUMMARY OF FINDINGS AND RECOMMENDATIONS

#### Barn

##### Location #: 59514

The barn is currently not open to the public or a part of tours, but the park is considering using it as an interpretive space in the future, as it is slated for restoration in two years. They are considering creating a similar plexiglass barrier and viewing area as they would like to install in the auto garage. The barn contains a chicken coop (right of entrance), horse stall (directly in front of entrance), and feeding station

room (to left and back of entrance). As suggested for the auto garage, maintaining adequate clear space and width in the barn and at exhibits is critical to accessibility. In addition, any signs should be designed to follow HFC interpretive mediate guidelines.

#### Main Lab, Building 5 Location #: 59536

Building 5 was Thomas Edison's main laboratory. Today visitors can enter many of the rooms to view artifacts and machinery used during Edison's time. An elevator was added to the attached Building 6 to increase access to the upper floors. Many of the interpretive exhibits pose a challenge for those with disabilities because of their positioning, reflective surfaces, or small serif fonts. Replace these panels and displays with new accessible panels and include audio and tactile components throughout. Another accessibility and safety concern in this building is the narrow spaces and doorways, including no accessible emergency egress. The accessible exit through Building 6 should be marked and directional signage installed in Building 5.



## **Ranger Station, Building 1**

### **Location #: 59532**

The ramp to the visitor center is too steep and does not provide a level landing at the exterior of the entrance. Currently (a result of the COVID-19 pandemic), the park is doing open-air check-ins in the warmer months. Simply by nature of staffing a ranger outside of the building, visitor center accessibility has been enhanced. It is recommended that the park continue this practice until a permanent solution for full accessibility compliance can be achieved. Additional recommendations for improved accessibility at the interior spaces of Building 1 are included in the corresponding action tables. Necessary improvements include restroom rehabilitation and redesign, addition of directional signage, lowering of fire alarm pulls and other features to fall within reach range requirements, replacement of the gift shop counter, and adjustment of fixtures to account for protruding objects and maneuvering clearances.

## **Chemistry Lab, Building 2**

### **Location #: 59533**

Currently, the Chemistry Lab is open to public for two one-hour periods each day. A ranger is always present during these times. The Chemistry Lab poses unique challenges for improving accessibility. Historically, the room was set up only to provide a narrow aisleway down the center of the room with glass bottles of historic chemicals lining either side. The fashion in which the room is laid out cannot be altered, due to its historical significance. Adding a program alternative, such as a captioned and audio-described film of the interior of this lab, played on a loop at a nearby location would allow people who can't or don't want to access the tight quarters directly to experience and learn about this space.

## **Laboratory Complex Buildings and Grounds**

The Laboratory Complex is open for visitor exploration even while several of the buildings are closed or have restricted hours. Improvements to the grounds with the installation of accessibly designed waysides and audio components on the

exterior of the lab buildings would benefit the many visitors of all abilities who are unable to enter the buildings.

Having a ranger stationed in the courtyard to answer questions and provide a ten-minute courtyard talk at the Labs, highlighting the history of the buildings, makes that ranger-led experience accessible to everyone the moment they walk in—this duty could be taken on by trained volunteers. The park's foundation document refers to the possibility of returning the courtyard area to its original appearance—complete with period props and historical reenactment. Implementation of this idea could create a meaningful accessible space, particularly with the addition of authentic tactile objects and soundscapes.

## **Action Planning**

The summaries in this report and the corresponding action tables represent the NCA's recommendations for barrier removal. Where specific solutions are not stipulated, it is the park's responsibility to consider all possible solutions and determine the most feasible option that will provide the required access. Some solutions, such as providing vertical access to historic structures or modifying exhibit displays, may require significant time and funding. These longer-term projects should not be deferred; rather, the timeline is meant to acknowledge that the process for developing the scope and securing funding can take multiple years. The park, while offering interim solutions and building long-term solutions, is still considered deficient with respect to accessibility. A variety of factors - including a complaint brought against the park or agency - may change the recommended or planned implementation timeline.

Providing access cannot be deferred until a larger project is undertaken. In order to ensure equal access to programs, short term solutions or programmatic alternatives must be provided. For example, there is no accessible route into and through Glenmont Mansion. Although the ideal permanent solution requires an investigation of many alternatives, alternative program access will need to be provided until that larger project is



funded and underway. The interim solution could be to provide and promote a space in the nearby potting shed for a visitor to watch a live broadcasted video of the Glenmont tour. Ideally this space would be staffed with someone who could answer questions from the visitor during the tour.

Upon receipt of the assessment data and report, it will be critical for park personnel to review and embark on a series of actions to continue planning for improved access to the programs and facilities at TENHP. Immediate work on PMIS requests and integration of accessibility-related recommendations into other NPS planning processes for long-term projects is strongly recommended and may be required in order to complete work within the established timelines. For example, a multi-step, long-term project can take seven-plus years from initiation. That clock starts when the project is submitted to PMIS, and this step should not be delayed.

**Year 1**

PMIS Statement & Funding Request Initiated

**Year 2**

Compliance Period (DAB, Section 106, SHPO, etc.)  
Statement Revision -based on fund manager's feedback

**Year 3**

Community and Partner Engagement (PEPC, etc.)  
Role Definition and Action planning

**Year 4**

Funding Awarded

**Year 5**

Design / Planning Phase  
Construction or Exhibit Design

**Year 6**

Construction or Development Phase

**Year 7**

Installation and Project Completed  
Evaluation and Feedback

Park senior management has already established a core accessibility management team with representation from various divisions including interpretation, facility operations, maintenance, administration, and other relevant departments affecting the experience for visitors with disabilities. As work moves forward, representation should include individuals with decision-making authority in order to appropriately prioritize funds while assuming responsibility for compliance oversight in those key areas. The core accessibility management team should convene to prioritize accessibility improvements, review procedures, and ensure policies are consistent with federal accessibility legislation.

The park staff member designated as the accessibility coordinator (park curator at the time of the assessment) should be significantly involved in the planning process for accessibility improvements and work as a conduit for information between program services and facility operations. The accessibility coordinator also should serve as the park management staff member to receive public requests for accommodations such as sign language interpreters.

A process to review and prioritize corrective actions to improve access for visitors with disabilities should be developed. In addition, a strategy and timeline should be outlined to conduct accessibility assessments of facilities and programs as they are changed or updated. Any deficiencies should be documented and proposed corrective actions can be cost estimated for future planning and budget requests.

A process to review all new construction and renovation plans or designs should be implemented to ensure that minimum accessibility standards and guidelines are appropriately applied and opportunities for the application of universal design are seized. In addition, a process to inspect all construction projects for compliance with the minimum accessibility standards and guidelines should be established.

Continue to provide training for full-time staff, seasonal staff, and volunteers on select topics

including the application of the accessibility standards and guidelines for park maintenance, the principles of universal design, program access, methods for developing accessible interpretive programs, the accommodation process, techniques for interacting with people with disabilities, and the use of people-first language. Interpretive staff should receive more specific training on the provision of audio description for people with visual impairments and tailoring talks for people with cognitive impairments. Frontline customer service staff should also receive seasonal updates on accessibility improvements in order to field or refer questions on accessibility from the public. Staff should be trained on the use of the available auxiliary aids, such as assistive listening systems, and a routine maintenance program for auxiliary aids and other accessibility equipment should be instituted.

To ensure TENHP continues to meet the needs of visitors with disabilities, a system of ongoing evaluation of the park's programs, services, and activities should be developed and instituted. The National Park Service is prohibited from discriminating against people with disabilities in their programs and services per Section 504 of the Rehabilitation Act. All visitors must have equal access to participate in and benefit from all programs and services, regardless of ability. Park staff is encouraged to contact the National Center on Accessibility to discuss possible solutions to any accessibility issue to ensure compliance is met and program access is guaranteed.

# Appendix A.

## List of Deficiencies by Criticality and Timeframe

Locations and corrective actions listed within each level of criticality. Please see the corresponding action tables for the complete description of each deficiency and the recommended solution.

### GLENMOUNT ESTATE

#### Critical

##### Critical—Short-term

#### GLENMOUNT BARN

**Location:** Pedestrian route to barn entrance

**Corrective Action:** Provide accessible route between roadway and barn entrance

#### GLENMOUNT MANSION

**Location:** Glenmont interior

**Corrective Action:** Provide meaningful tactile experiences

#### GLENMOUNT MANSION

**Location:** Visitor tour route

**Corrective Action:** Increase light levels

#### GLENMOUNT MANSION

**Location:** Mansion grounds / driveway

**Corrective Action:** Replace drainage grates

#### GLENMOUNT VISITOR PARKING

**Location:** Visitor parking lot

**Corrective Action:** Improve accessible parking

#### GLENMOUNT GREENHOUSE

**Location:** Greenhouse interior

**Corrective Action:** Designate an accessible pathway at Greenhouse interior

#### GLENMOUNT POTTING SHED

**Location:** Visitor Center entrance

**Corrective Action:** Replace threshold

#### GLENMOUNT POTTING SHED

**Location:** Visitor Center restroom

**Corrective Action:** Install tactile signage and remove table

#### GLENMOUNT POTTING SHED

**Location:** Visitor Center restroom

**Corrective Action:** Adjust door hardware

#### GLENMOUNT POTTING SHED

**Location:** Location: Parking to Potting Shed route

**Corrective Action:** Repair accessible route

#### GLENMOUNT POTTING SHED

**Location:** Stairs between Potting Shed and Greenhouse

**Corrective Action:** Provide accessible handrails

#### GLENMOUNT POTTING SHED

**Location:** Stairs between Potting Shed and Greenhouse

**Corrective Action:** Provide accessible route

##### Critical—Mid-term

#### GLENMOUNT AUTO GARAGE

**Location:** Auto Garage contents

**Corrective Action:** Install tactile models

#### GLENMOUNT AUTO GARAGE

**Location:** Auto Garage route

**Corrective Action:** Grade auto garage driveway

#### GLENMOUNT BARN

**Location:** Barn entrance (Interior of door

**Corrective Action:** Replace landing and entryway surface

#### GLENMOUNT BARN

**Location:** Barn interior routes

**Corrective Action:** Create accessible visitor route

#### GLENMOUNT BARN

**Location:** Barn contents

**Corrective Action:** Install tactile models and audio elements

### **GLENMONT GROUNDS**

**Location:** Landscape routes

**Corrective Action:** Provide accessible routes throughout gardens

### **GLENMONT GROUNDS**

**Location:** Culverts along roadway

**Corrective Action:** Create accessible routes

### **GLENMONT MANSION**

**Location:** Doorway between Servant's hallway and Dining Room entrance

**Corrective Action:** Install swing away door or remove door

### **GLENMONT POTTING SHED**

**Location:** Potting Shed entrance (Exterior)

**Corrective Action:** Grade exterior landing

## **Critical—Long-term**

### **GLENMONT MANSION**

**Location:** Stairway

**Corrective Action:** Install historically compatible and compliant handrails

### **GLENMONT MANSION**

**Location:** Steps between Conservancy and Reception Room

**Corrective Action:** Investigate ramp

### **GLENMONT MANSION**

**Location:** Conservatory, exterior

**Corrective Action:** Create accessible route into Mansion

### **GLENMONT POTTING SHED**

**Location:** Visitor Center entrance

**Corrective Action:** Replace entrance doors

### **GLENMONT POTTING SHED**

**Location:** Visitor Center restroom

**Corrective Action:** Investigate accessible restroom options

### **GLENMONT POTTING SHED**

**Location:** Film and volunteer area

**Corrective Action:** Relocate sink

## **Serious**

### **Serious—Immediate**

### **GLENMONT MANSION**

**Location:** Library

**Corrective Action:** Relocate stanchions

### **GLENMONT MANSION**

**Location:** Servant's area

**Corrective Action:** Relocate "Free Recipes" basket

### **GLENMONT MANSION**

**Location:** Mansion grounds / driveway

**Corrective Action:** Replace directional signage

### **GLENMONT MANSION**

**Location:** Mansion grounds

**Corrective Action:** Provide accessible seating

### **GLENMONT POTTING SHED**

**Location:** Gift shop

**Corrective Action:** Rearrange furniture

## **Serious—Short-term**

### **GLENMONT AUTO GARAGE**

**Location:** Turntable floor surface

**Corrective Action:** Designate visitor route and eliminate changes in level

### **GLENMONT AUTO GARAGE**

**Location:** Auto Garage entrance

**Corrective Action:** Construct accessible viewing area

### **GLENMONT AUTO GARAGE**

**Location:** Auto Garage interpretive signage

**Corrective Action:** Replace signs

### **GLENMONT AUTO GARAGE**

**Location:** Auto Garage interpretive signage

**Corrective Action:** Adjust tripod

### **GLENMONT AUTO GARAGE**

**Location:** Auto Garage interpretive signage

**Corrective Action:** Redesign panel

### **GLENMONT MANSION**

**Location:** Visitor circulation paths

**Corrective Action:** Add cane detectable indicator beneath sconces

### **GLENMONT MANSION**

**Location:** Reception Room circulation path

**Corrective Action:** Widen route

### **GLENMONT MANSION**

**Location:** Conservatory

**Corrective Action:** Eliminate hazard of openings at floor grates

### **GLENMONT MANSION**

**Location:** Mansion tour route

**Corrective Action:** Ensure stanchions are cane detectable

### **GLENMONT MANSION**

**Location:** Library

**Corrective Action:** Extend green carpeting

### **GLENMONT MANSION**

**Location:** Den

**Corrective Action:** Install stanchions

### **GLENMONT MANSION**

**Location:** Second floor circulation path

**Corrective Action:** Relocate furniture

### **GLENMONT MANSION**

**Location:** Visitor tour route

**Corrective Action:** Add additional seating areas

### **GLENMONT POTTING SHED**

**Location:** Gift shop

**Corrective Action:** Add cane detectable indicator

### **GLENMONT POTTING SHED**

**Location:** Visitor Center

**Corrective Action:** Raise lights

### **GLENMONT POTTING SHED**

**Location:** Visitor Center restroom

**Corrective Action:** Replace restroom door lock

### **GLENMONT POTTING SHED**

**Location:** Visitor Center restroom

**Corrective Action:** Lower paper towel dispenser

### **GLENMONT POTTING SHED**

**Location:** Film and volunteer area

**Corrective Action:** Create enlargements of key documents

### **GLENMONT POTTING SHED**

**Location:** Film and volunteer area

**Corrective Action:** Install directional signage

### **GLENMONT POTTING SHED**

**Location:** Seating area

**Corrective Action:** Provide accessible seating

## **Serious—Mid-term**

### **GLENMONT MANSION**

**Location:** Doorway stanchions

**Corrective Action:** Create alcoves

### **GLENMONT MANSION**

**Location:** Two steps near stairway

**Corrective Action:** Install handrails

### **GLENMONT GREENHOUSE**

**Location:** Greenhouse exterior entrance

**Corrective Action:** Provide accessible entry to Greenhouse

## **Serious—Long-term**

### **GLENMONT AUTO GARAGE**

**Location:** Entryway floor surface

**Corrective Action:** Repair concrete

## **Minor**

### **Minor—Immediate**

### **GLENMONT MANSION**

**Location:** Conservatory

**Corrective Action:** Adjust tripod easel

Visitor Parking

**Location:** Amenities adjacent to parking area

**Corrective Action:** Relocate cigarette disposal station and repair opening force of trash and recycling receptacle

### **GLENMONT POTTING SHED**

**Location:** Side entrance

**Corrective Action:** Install signage

### **GLENMONT POTTING SHED**

**Location:** Film and volunteer area

**Corrective Action:** Relocate mirror

## Minor—Short-term

### GLENMONT MANSION

**Location:** Servant's area

**Corrective Action:** Secure rugs

### GLENMONT POTTING SHED

**Location:** Film and volunteer area

**Corrective Action:** Acquire bench

## LABORATORY COMPLEX

### Critical

#### Critical—Immediate

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Gift shop

**Corrective Action:** Arrange merchandise there are not protruding objects

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Theater

**Corrective Action:** Rearrange moveable chairs

### LABORATORY COMPLEX VISITOR PARKING

**Location:** Parking area adjacent to Maintenance Building

**Corrective Action:**

### LABORATORY COMPLEX VISITOR PARKING

**Location:** Bulletin Board at the visitor parking area

**Corrective Action:** Provide effective communication of information

### LABORATORY COMPLEX GROUNDS

**Location:** Building 11 exterior

**Corrective Action:** Prohibit visitor access to brick paver routes

### LABORATORY COMPLEX GROUNDS

**Location:** Laboratory grounds

**Corrective Action:** Replace port-a-john

## Critical—Short-term

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Gift shop

**Corrective Action:** Relocate card reader

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Women's restroom accessible stall

**Corrective Action:** Relocate toilet

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Women's restroom accessible stall

**Corrective Action:** Relocate grab bars

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Men's restroom accessible stall

**Corrective Action:** Relocate grab bars

### MAIN LAB BLDG 5

**Location:** Machine shop

**Corrective Action:** Install cane detectable indicator

### MAIN LAB BLDG 5

**Location:** Machine shop

**Corrective Action:** Widen clearance at door

### MAIN LAB BLDG 5

**Location:** Laboratory Complex

**Corrective Action:** Train staff

### MAIN LAB BLDG 5

**Location:** Room 12

**Corrective Action:** Investigate widening doorway opening

### MAIN LAB BUILDING 5

**Location:** Drafting Room

**Corrective Action:** Repair floor surface

### MAIN LAB BLDG 5

**Location:** Hands on Experiment Zone

**Corrective Action:** Replace table

### MAIN LAB BLDG 5

**Location:** Music Room

**Corrective Action:** Investigate widening doorway opening

### MAIN LAB BLDG 5

**Location:** Photography Lab

**Corrective Action:** Investigate widening doorway opening

**LABORATORY BUILDING 11 GOLD ROOM****Location:** Meeting room**Corrective Action:** Replace tables**LABORATORY CHEMISTRY LAB BUILDING 2****Location:** Chemistry Lab exhibits**Corrective Action:** Train staff and create tactile elements**LABORATORY COMPLEX GROUNDS****Location:** Thomas Edison Statue**Corrective Action:** Eliminate protruding object and slope**LABORATORY COMPLEX GROUNDS****Location:** Pattern Shop and Blacksmith's Shop**Corrective Action:** Provide accessible route and viewing space**LABORATORY COMPLEX GROUNDS****Location:** Building 5 exterior**Corrective Action:** Eliminate protruding objects**LABORATORY COMPLEX GROUNDS****Location:** Building 5 Fire Escape/Roof Access**Corrective Action:** Install cane detectable warning**LABORATORY COMPLEX GROUNDS****Location:** Vault 12**Corrective Action:** Provide compliant handrails**Critical—Mid-term****LABORATORY PHYSICS LAB BUILDING 1****Location:** Visitor entrance**Corrective Action:** Remodel visitor entrance**LABORATORY PHYSICS LAB BUILDING 1****Location:** Physics Lab building**Corrective Action:** Lower fire pulls**LABORATORY PHYSICS LAB BUILDING 1****Location:** Women's restroom accessible stall**Corrective Action:** Renovate window and exterior wall**LABORATORY PHYSICS LAB BUILDING 1****Location:** Women's restroom accessible stall**Corrective Action:** Replace heater**LABORATORY PHYSICS LAB BUILDING 1****Location:** Men's restroom accessible stall**Corrective Action:** Renovate window and exterior wall**LABORATORY PHYSICS LAB BUILDING 1****Location:** Men's restroom accessible stall**Corrective Action:** Replace heater**MAIN LAB BLDG 5****Location:** Visitor entrance**Corrective Action:** Replace doors**MAIN LAB BLDG 5****Location:** Interior entrance doorway**Corrective Action:** Replace doors**MAIN LAB BLDG 5****Location:** Building 6 Programming Space Exterior Door**Corrective Action:** Install exterior platform**MAIN LAB BLDG 5****Location:** Laboratory Complex**Corrective Action:** Create audio-described tour**MAIN LAB BLDG 5****Location:** Laboratory Complex**Corrective Action:** Create tactile models and features**MAIN LAB BLDG 5****Location:** Building 5**Corrective Action:** Lower fire pulls**LABORATORY BUILDING 11 GOLD ROOM****Location:** Visitor entrance**Corrective Action:** Replace doors**LABORATORY BUILDING 11 GOLD ROOM****Location:** Meeting room AV system**Corrective Action:** Investigate acquisition of integrated assistive listening system**LABORATORY CHEMISTRY LAB BUILDING 2****Location:** Visitor entrance**Corrective Action:** Remodel visitor entrance**LABORATORY CHEMISTRY LAB BUILDING 2****Location:** Chemistry Lab exhibits**Corrective Action:** Lower fire pull

### LABORATORY COMPLEX GROUNDS

**Location:** Laboratory complex grounds

**Corrective Action:** Provide accessible wayside content

### LABORATORY COMPLEX GROUNDS

**Location:** Buildings 2, 3, and 4

**Corrective Action:** Provide accessible entry to each building

## Critical—Long-term

### MAIN LAB BLDG 5

**Location:** Building 5

**Corrective Action:** Replace exhibit panels

### LABORATORY COMPLEX GROUNDS

**Location:** Visitor Center, exterior

**Corrective Action:** Redesign access to visitor center main entrance

## Serious

### Serious—Immediate

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Theater landmark sign

**Corrective Action:** Add large print version of text

### LABORATORY COMPLEX VISITOR PARKING

**Location:** Parking area at the corner of Main St. and Edisonia Terr.

**Corrective Action:** Repair accessible parking spaces

### LABORATORY CHEMISTRY LAB BUILDING 2

**Location:** Visitor circulation path

**Corrective Action:** Ensure barriers or stanchions are cane detectable

### LABORATORY COMPLEX GROUNDS

**Location:** Main Entrance, Gate House

**Corrective Action:** Eliminate protruding object

### Serious—Short-term

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Gift shop

**Corrective Action:** Train employees to provide accommodations

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Gift shop

**Corrective Action:** Relocate donation box

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Restroom hallway

**Corrective Action:** Add cane detectable indicator

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Restroom hallway

**Corrective Action:** Raise low drinking fountain

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Restroom hallway

**Corrective Action:** Add tactile signage

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Women's restroom

**Corrective Action:** Relocate hand dryer

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Women's restroom accessible stall

**Corrective Action:** Relocate toilet paper dispenser

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Men's restroom accessible stall

**Corrective Action:** Relocate toilet paper dispenser

### LABORATORY COMPLEX VISITOR PARKING

**Location:** Picnic area adjacent to visitor parking

**Corrective Action:** Provide accessible picnic opportunity

### LABORATORY COMPLEX VISITOR PARKING

**Location:** Parking area at the corner of Main St. and Edisonia Terr.

**Corrective Action:** Provide passenger loading zone

### MAIN LAB BLDG 5

**Location:** Entrance hallway

**Corrective Action:** Replace printed sheet

### MAIN LAB BLDG 5

**Location:** Stockroom

**Corrective Action:** Replace bench

### MAIN LAB BLDG 5

**Location:** Stockroom

**Corrective Action:** Replace tables

### MAIN LAB BLDG 5

**Location:** Machine shop

**Corrective Action:** Relocate exhibits

**MAIN LAB BLDG 5**

**Location:** Physics Lab directional signage  
**Corrective Action:** Replace directional signage

**MAIN LAB BLDG 5**

**Location:** Physics Lab directional signage  
**Corrective Action:** Replace room identification signage

**MAIN LAB BLDG 5**

**Location:** Precision Shop  
**Corrective Action:** Replace benches and rearrange

**MAIN LAB BLDG 5**

**Location:** Precision Shop  
**Corrective Action:** Replace table

**MAIN LAB BLDG 5**

**Location:** Precision Shop  
**Corrective Action:** Replace printed sheet

**MAIN LAB BLDG 5**

**Location:** Building 5  
**Corrective Action:** Add content to audio described tour

**MAIN LAB BLDG 5**

**Location:** Building 5  
**Corrective Action:** Replace printed interpretive text

**MAIN LAB BLDG 5**

**Location:** Building 5  
**Corrective Action:** Install signage

**MAIN LAB BLDG 5**

**Location:** Music Room  
**Corrective Action:** Replace benches and rearrange

**MAIN LAB BLDG 5**

**Location:** Music Room  
**Corrective Action:** Rearrange fixtures

**MAIN LAB BLDG 5**

**Location:** Third floor hallway  
**Corrective Action:** Replace benches and rearrange

**MAIN LAB BLDG 5**

**Location:** Third floor hallway  
**Corrective Action:** Replace exhibit labels

**MAIN LAB BLDG 5**

**Location:** Third floor hallway  
**Corrective Action:** Replace table or remove drawers

**MAIN LAB BLDG 5**

**Location:** Artifact Storage  
**Corrective Action:** Replace artifact tags

**LABORATORY COMPLEX GROUNDS**

**Location:** Pattern Shop  
**Corrective Action:** Replace and relocate tactile sign

**LABORATORY COMPLEX GROUNDS**

**Location:** Blacksmith Shop  
**Corrective Action:** Replace and relocate tactile sign

**LABORATORY COMPLEX GROUNDS**

**Location:** Main Entrance, Gate House  
**Corrective Action:** Eliminate tripping hazard

**LABORATORY COMPLEX GROUNDS**

**Location:** Visitor Center, Building 5 area  
**Corrective Action:** Eliminate protruding object

**LABORATORY COMPLEX GROUNDS**

**Location:** Laboratory complex courtyard and Building 11 routes  
**Corrective Action:** Replace drainage grates

**LABORATORY COMPLEX GROUNDS**

**Location:** Building 11 entrance ramp  
**Corrective Action:** Install edge protection

**LABORATORY COMPLEX GROUNDS**

**Location:** Building 5 entrance  
**Corrective Action:** Install edge protection

**Serious—Mid-term****LABORATORY PHYSICS BUILDING 1**

**Location:** Theater interpretive panels  
**Corrective Action:** Replace panels

**MAIN LAB BLDG 5**

**Location:** Building 6 Programming Space  
**Corrective Action:** Install cane detectable indicator

**MAIN LAB BLDG 5**

**Location:** Precision Shop Building 6 entrance  
**Corrective Action:** Remodel visitor entrance

**LABORATORY BUILDING 11 GOLD ROOM**

**Location:** Meeting room interpretive panels  
**Corrective Action:** Replace panels

### LABORATORY COMPLEX GROUNDS

**Location:** Pattern and Blacksmith Shops  
**Corrective Action:** Add content to audio described tour

### LABORATORY COMPLEX GROUNDS

**Location:** Vault  
**Corrective Action:** Replace waysides

### LABORATORY COMPLEX GROUNDS

**Location:** Laboratory complex grounds  
**Corrective Action:** Repair wayside panels that are protruding objects

## Serious—Long-term

### LABORATORY CHEMISTRY LAB BUILDING 2

**Location:** Visitor circulation path  
**Corrective Action:** Repair floor surface

## Minor

### Minor—Immediate

### LABORATORY COMPLEX VISITOR PARKING

**Location:** Amenities at the visitor parking area  
**Corrective Action:** Repair opening force of trash and recycling receptacle

### LABORATORY COMPLEX VISITOR PARKING

**Location:** Communications at the visitor parking area  
**Corrective Action:** Adjust height of bulletin board

### Minor—Short-term

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Physics Lab directional signage  
**Corrective Action:** Replace signage

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Restroom doors  
**Corrective Action:** Adjust door closers or other hardware

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Women's restroom accessible stall  
**Corrective Action:** Install handle on door and adjust hinges

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Women's restroom  
**Corrective Action:** Lower baby changing table

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Women's restroom  
**Corrective Action:** Lower feminine hygiene product dispenser

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Men's restroom  
**Corrective Action:** Lower hand sanitizer dispenser

### LABORATORY PHYSICS LAB BUILDING 1

**Location:** Men's restroom accessible stall  
**Corrective Action:** Install handle on door and adjust hinges

### MAIN LAB BLDG 5

**Location:** Entrance hallway  
**Corrective Action:** Modify exhibit case

### MAIN LAB BLDG 5

**Location:** Entrance hallway  
**Corrective Action:** Replace printed directional sign

### MAIN LAB BLDG 5

**Location:** Elevator lobby area  
**Corrective Action:** Replace bench

### MAIN LAB BLDG 5

**Location:** 2nd floor  
**Corrective Action:** Replace benches

### MAIN LAB BLDG 5

**Location:** Precision Shop  
**Corrective Action:** Add sign

### LABORATORY COMPLEX GROUNDS

**Location:** Trash receptacle adjacent to Visitor Center  
**Corrective Action:** Relocate trash receptacle

### LABORATORY COMPLEX GROUNDS

**Location:** Route to Vault 12  
**Corrective Action:** Repair accessible route

# Appendix B. Contents of Flash Drive

## Referenced Standards and Guidelines

### **ARCHITECTURAL BARRIERS ACT (ABA) ACCESSIBILITY STANDARDS**

Architectural Barriers Act Accessibility Standards (ABAAS) (2015 Edition) Guide to the ABA Standards – Chapters 1-5

Outdoor Developed Areas – Guide (2014)

### **DEPARTMENT OF JUSTICE (DOJ) GUIDANCE**

Wheelchairs, Mobility Aids, and Other Power-Driven Mobility Devices

### **INFORMATION AND COMMUNICATION TECHNOLOGY (REHAB ACT – SECTION 508)**

Rehabilitation Act – Section 508 – Electronic and Information Technology Accessibility Standards

Refresh of the Section 508 Standards and the Telecommunications Act Accessibility Guidelines (2018)

WCAG 2.1 Map

WCAG 2.1 Map Audio Description

WCAG 2.1 Map Audio Description transcript

### **UNIVERSAL DESIGN**

Principles of Universal Design

### **NPS POLICIES, ORDERS, AND MEMOS**

Director's Order #42: Accessibility for Visitors with Disabilities in NPS Programs and Services

Personnel Bulletin 14-01: US DOI Policy and Procedures on Reasonable Accommodation for Individuals with Disabilities

Policy Memorandum 18-02: Use of Service Animals by Visitors with Disabilities – Interim Policy

Use of Service Animals by Visitors with Disabilities  
Frequently Asked Questions

Policy Memorandum 19-01: Electric Bicycles

Policy Memorandum 19-01: Electric Bicycles  
Frequently Asked Questions

All In! Accessibility in the National Park Service, 2015-2020

National Park Service Housing Guidance - Service and Emotional Support Animals within Employee Housing

NPS Audio-Visual Accessibility Initiative for Visitors with Disabilities D24

### **NPS GUIDELINES**

Secretary of The Interior's Standards for the Treatment of Historic Properties Harper's Ferry Center

Programmatic Accessibility Guidelines for National Park Service Interpretive Media Wayside Exhibits: A Guide to Developing Outdoor Interpretive Exhibits  
Employees for the Advancement of People with Disabilities  
Employee Resource Group Statement  
Guide for Accessible Transportation Systems

### **NATIONAL ENDOWMENT FOR THE ARTS**

Design for Accessibility: A Cultural Administrator's Handbook

## Other Resources

### **NATIONAL PARK SERVICE**

Accessibility Resources for Park Accessibility Coordinators (2019)

### **ASSISTIVE LISTENING**

The Kennedy Center: Assistive Listening Systems for People with Hearing Loss: A Guide for Museums  
Hearing Loss Association of America: Comparison of Large Area Assistive Listening Systems



## **Appendix C. Action Tables**

*Please See Supplemental Booklet*



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